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In the fall of 1968, 269 males and 167 females at Central Virginia Community College were administered the Holland Vocational Preference Inventory. Statistical comparisons were made scale-for-scale between these students and national normative group average scores. The comparisons of means and standard deviations were analyzed by "t" tests; the results of these tests were presented. In general it was found that both males and females were quite different from the standardized groups and appeared to be somewhat deficient in the areas considered essential for effective educational outcomes. This report was prefaced with a description of the test including a discussion of its rationale, reliability and validity, and the advantage of using this type of personality inventory. (MB)

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GUIDANCE DEPARTMENT

Office of Director of Institutional Research

CENTRAL VIRGINIA COMMUNITY COLLEGE

Lynchburg, Virginia

CVCC

VIRGINIA COMMUNITY COLLEGE SYSTEM

VCCS

CVCC STUDENT PERFORMANCE ON THE HOLLAND VOCATIONAL PREFERENCE INVENTORY

Research Report No. 1-69

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JC 690 355

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CLEARINGHOUSE FOR JUNIOR COLLEGE INFORMATION

I. INTRODUCTION

A. Description of the VPI[1]

The Vocational Preference Inventory (VPI) is a "personality" inventory composed entirely of occupational titles. A person takes the inventory by merely indicating the occupations which he likes or dislikes. The complex clusters of personal traits which the inventory assesses yield a broad range of information about the subject's interpersonal relations, interests, values, self-conception, coping behavior, and identifications. The inventory has eleven scales or groupings of items: Realistic, Intellectual, Social, Conventional, Enterprising, Artistic, Self-Control, Masculinity, Status, Infrequency, and Acquiescence.

The primary purpose of the VPI is to assess personality. The VPI can, however, be used for several other purposes: (1) as an "interest" inventory[2]; (2) as an inventory to assess the personality types in a theory of vocational choice; and (3) as a technique to stimulate occupational exploration among high school and college students.

The neutral content (listing of 160 occupations) of the inventory and its form give it the following desirable properties; (1) occupational titles provide subtle stimuli which elicit positive interest and avoid the negative reactions sometimes provoked by "obvious" personality inventories and projective devices with excessive ambiguity and threat; (2) oc-

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[1]Sections A-C are taken from: Holland, John L. Manual: Vocational Preference Inventory. 6th. Rev. Iowa City: Educational Research Associates, 1965.

[2]This is so because its content is occupational and since some scales correspond to the dimensions commonly measured by "interest" inventories.

cupational content reduces the subjects' need to "fake" since this kind of content is usually perceived as having no relation to personal adjustment; and (3) the VPI provides at low cost a broad range of reliable information about a subject in a brief testing and scoring time without the need for special scoring or data processing equipment. It is unlikely that the VPI has more validity than comparable inventories; instead, its chief value is an adequately reliable and valid measurement at an economical use of time and money.

The VPI's most desirable use is as a brief, screening inventory for high school and college students, and employed adults. For example, as the first assessment device in a series of psychological or interviewing steps for guidance functions, the VPI, because of its brevity and range of information, is helpful in learning whether or not more expensive and time-consuming procedures are desirable. Persons with normal personal adjustment or appropriate vocational interests can be re-examined with a minimum of supplementary interviews, records, and tests. Persons with abnormal or inappropriate profiles can be re-examined with other more expensive and time-consuming techniques.

B. Rationale Behind the VPI

The development of the VPI has been guided by a psychological rationale integrated from a number of divergent fields: psychology, psychiatry, test theory, and sociology. The aim of this formulation is to provide a theoretical framework for using and interpreting the inventory and to present a means of extending and clarifying its

construct validity. The following assumptions summarize the rationale:

1. The choice of an occupation is an expressive act which reflects the person's motivation, knowledge, personality, and ability. Item responses may be thought of as limited but useful expressive or projective protocols.
2. People tend to see occupational titles and occupations in stereotyped ways. This assumption is a crucial one, for it is fundamental to the reliability and validity of the inventory.
3. The interaction of the person and his environment creates a limited number of favorite methods for dealing with interpersonal and environmental problems. Translated into scale terms, peaks reveal the person's favorite methods of adjustment. Or, peaks may represent desirable roles and situations, and low points, threatening or distasteful roles and situations.

   The foregoing assumption is predicated by another assumption: namely that the various classes or occupational groups furnish different kinds of gratifications or satisfactions and require different abilities, identifications, values, and attitudes.
4. The development of adequate adjustive techniques requires accurate discrimination among potential environments. The ability to discriminate potentially dissatisfying and

unhealthy environments is imperative for mental health.

5. The total number of preferred occupations is a function of a number of personality variables. Over-responsiveness suggests a lack of adequate discrimination which may be reflected in dependence, aggression, euphoria, conservation impulsivity, sociability, and frankness. In contrast, under-responsiveness appears indicative of greater independence, passivity, depression, rejection of the culture, over-control, withdrawal, and defensiveness.

6. The inability to make discriminations among occupations is indicative of conflict and disorganized self-understanding. Just as the inability to make everyday decisions is a result of conflicting motivations, so the inability to make positive or negative choices of occupations (environments) within the inventory is a sign of conflict. In this sense, conflict is defined as divergent, inaccurate, or irreconcilable views about one's abilities, needs, and sources of gratification; and is accompanied by the chronic emotional upset which results from such conflict.

7. Interest inventories are personality inventories. Interest and personality inventories are identical in principle and provide similar information about the person, although their content is quite diverse. Both kinds of inventories reveal how the subject perceives himself and his milieu.

C. Reliability and Validity

1. Reliability

After evaluating the internal consistency of the VPI, we find that with the exception of the Infrequency, Masculinity, and Status Scales (which are lower) the VPI scales have moderate (70's) to high (80's) homogeneity of content. The standard error of measurement for the coefficients over brief time intervals ranges from 1 to 5 raw score points.

2. Validity

Correlational studies of the VPI with other inventories, clinical criteria, and self-reports of subjects, indicate that the VPI has good construct validity, although only moderate predictive validity.

II. STATEMENT OF THE PROBLEM

As part of the Orientation Program of Central Virginia Community College the VPI was administered to incoming students. The VPI was used as a preliminary measure of vocational interest and basic personality adjustment. Results were obtained for 269 males and 167 females. Comparisons were made between students at CVCC and those in the national VPI normative group.

The national normative group was comprised of 6,270 males, and 6,143 females in 30 diverse institutions. These are the students upon whom the test was standardized.

The question concerning us was whether or not the CVCC students tested were similar in vocational interests and basic personality adjustment to those students comprising the national normative group.

III. DESIGN

During the Orientation Program in the fall of 1968, 269 males and 167 females were administered the VPI. The answer sheets were scored and key punched onto cards for statistical calculations of means and standard deviations. Statistical comparisons were made scale for scale between the CVCC average scores (means and standard deviations) and the national normative group average scores (means and standard deviations). The comparisons of means and standard deviations were analyzed by "t" tests of significant differences.

IV. RESULTS

A. Females

The findings of the study are listed in Table I. The following seven scales out of a total of eleven were found to be significantly lower for CVCC females than for the females in the standardization group: Realistic, Intellectual, Social, Enterprising, Artistic, Status, and Acquiescence.

These three scales out of a total of eleven were significantly higher for CVCC females than for the females in the standardization group: Self-Control, Masculinity-Femininity, and Infrequency.

Only one scale, Conventional, was found not to be significantly different between the two groups.

Further, the findings indicate that CVCC females as a whole by comparison with the National Normative Group, are considered as "low scorers" (less than 35 standard score points) on the Social and Acquiescence scales and "high scorers" (more than 70 standard score points) on the Infrequency Scale.

T A B L E I

COMPARISONS ON THE VPI BETWEEN CVCC FEMALES AND NATIONAL NORM GROUPS

	Realistic	Intel-lectual	Social	Conven-tional	Enter-prising	Artistic	Self Control	Mascu-linity Femininity	Status	Infre-quency	Acqui-escence
CVCC females Mean (N=167)	.92	2.66	6.23	3.11	2.60	4.14	11.49	4.58	8.62	8.41	8.77
S. D.	1.53	3.56	4.08	3.33	2.80	4.08	2.98	2.26	2.13	2.81	5.03
National Norm Group Mean (N=6143)	1.50	3.80	8.10	2.70	3.80	5.90	10.10	4.00	9.30	6.50	11.70
S. D.	2.1	3.9	3.7	3.0	2.9	4.3	3.4	2.2	2.1	2.9	4.8
Value of "t"	2.576**	4.08**	5.858**	1.57	5.459**	2.372*	5.924**	3.274**	4.074**	8.662**	7.432**

* Significant at the .05 level of confidence

** Significant at the .01 level of confidence

According to the Manual of the VPI "low scorers" on the Social scale are assumed to have the opposite of these traits (in descending order of correlational certainty): "Sociable; Enthusiastic; Adventurous; Religious; Conservative; Value social and religious achievement; Helpful; Dominant; Naive; Insightful; Understanding of others; Many social and educational competencies." In addition, "Normals and psychiatric patients with depressive moods often have low scores on this scale."

According to the Manual of the VPI "low scorers" on the Acquiescence scale are assumed to have the opposite of these traits (in descending order of correlational certainty): "Enthusiastic; Dominant; Conventional; Accepting of others; Many interests."

Subjects who are "low scorers" on the Acquiescence scale seem to "like only a few occupations," and tend to be regarded as "Expressing an unsociable, depressive, passive, defensive, and unconventional outlook." Further, their few preferences "are associated with self-deprecation."

"High scorers" on the Infrequency scale according to the Manual of the VPI are assumed to possess the following traits (in descending order of correlational certainty): "Feminine; Low mechanical ability; Lacking sense of humor; Dependent; Paranoid; Few claimed competencies; Low aspiration level."

The clinical interpretation in the Manual of the VPI states further that "the scored items include preferences for unpopular, feminine, low status occupations and the rejection of masculine,

high status, popular occupations requiring various kinds of interpersonal, artistic, and intellectual talent. This analysis suggests that high scorers have atypical vocational preferences and, by implication, high scorers have self-deprecating attitudes about themselves and have deviant attitudes about their culture ... In a broad sense, this heterogeneous validity scale can be characterized as a personal effectiveness scale with high scores indicative of incompetency and low scores indicative of personal effectiveness."

The manual indicates that in terms of "life style" the favored method of adaptive behavior for CVCC females as a whole (i. e. for the "typical"* CVCC female) is a "Conventional" one. The average score for CVCC females on the Conventional scale is at the 67th. percentile. That means that many students are very high, and not many are very low on the Conventional scale.

The next two highest scores (53rd. percentile) are on the Realistic and Intellectual scales. However, as pointed out above, these still are significantly lower than the norm group. The major "life style" then is Conventional.

The "rejected" "life style" on the other hand is Social, which, as noted above, is not only significantly lower than the norm group, but as a group represents a "low scorer" situation.

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*This, of course, is a statistical average, since there is no one student who will have the same scores as the average scores of all 167 CVCC females tested.!

The profile pattern of the "typical" CVCC female seems to be integrated and consistent. She seems also to have desirable self-control. However, she seems to have low aspirations and not a normal outlook. She seems to have depressive qualities, and seems to be quiet and reserved. She shows little potential for original or creative behavior.

B. Males

The findings of this study are listed in Table II. The following five scales, out of a total of eleven, were found to be significantly lower for CVCC males than for the males in the standardization group: Intellectual, Social, Artistic, Status, and Acquiescence.

One scale, Self-Control, out of a total of eleven, was found to be significantly higher for CVCC males than for the males in the standardization group.

The following five scales, out of a total of eleven, were found not to be significantly different between the two groups: Realistic, Conventional, Enterprising, Masculinity-Femininity, and Infrequency.

Further, these findings seem to indicate that CVCC males, as a whole, are "low scorers" on the Acquiescence scale. According to the Manual of the VPI "low scorers" on the Acquiescence scale are assumed to have the opposite of these traits (in descending order of correlational certainty): "Sociable; Dominant; Enthusiastic; Cheerful; Pleasure-seeking; Normal; Dependent; Impulsive; Many interests; Observing."

TABLE II

COMPARISONS ON THE VPI BETWEEN CVCC MALES AND NATIONAL NORM GROUP

	SCALES										
	Realistic	Intel-lectual	Social	Conven-tional	Enter-prising	Artistic	Self Control	Mascu-linity Femininity	Status	Infre-quency	Acqui-escence
CVCC Males Mean (N=269)	4.34	4.23	3.41	3.38	4.25	2.77	8.40	8.80	7.46	5.66	9.78
S. D.	3.46	4.12	3.61	3.41	3.46	3.32	3.84	2.29	2.83	2.92	5.08
National Norm Group Mean (N=6270)	4.30	5.40	4.50	3.20	4.60	3.60	7.70	8.80	8.00	5.20	11.60
S. D.	3.60	4.30	3.60	3.50	3.50	3.70	3.90	2.40	2.90	2.80	4.80
Value of "t"	.185	4.552**	4.849**	.846	1.624	3.99**	2.926**	.00	3.061**	2.534	5.766**

**Significant at the .01 level of confidence

Also, as in the case of the females, the CVCC males seem to be "expressing an unsociable, depressive, passive, defensive, and unconventional outlook." Their "few preferences are associated with self-deprecation."

In terms of "life style" CVCC males as a whole appear as "Conventional". In other words, the favored method of adaptive behavior for the "typical"* CVCC male is Conventional. The next area of greatest vocational interest is Realistic, followed by Enterprising and Artistic. By contrast, the "rejected" "life styles" are Social and Intellectual.

The typical CVCC male seems to have adequate self-control, moderate aspirations, and fairly normal outlook. He seems to be quiet and reserved, showing only fair potential for original or creative behavior.

IV. CONCLUSIONS AND IMPLICATIONS

We may conclude that CVCC females, as a group, appear to be quite dissimilar to the females in the national normative group. We say this since 10 of the 11 scales are significantly different. Whether this dissimilarity is "good" or "bad" depends upon one's value system. For example, who is to evaluate whether the predominant conventional anti-social life style expressed by the majority of CVCC females is "good" or "bad".

As educators we can only wonder if it is not perhaps disturbing that our female students appear somewhat deficient in the areas that are considered essential for effective <u>educational</u> outcomes. By this, we

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*This is a statistical average, since no <u>one</u> student would have the same scores as the average of all students.

mean especially the applicable descriptions such as: unenthusiastic, unsightful, few educational competencies, few interests, liking only a few occupations, having a low aspiration level, and expressing atypical vocational preferences.

It would appear that these female students may not have been "exposed" to many occupational or vocational possibilities. It seems, further, that the typical CVCC female does not feel particularly "excited" about higher education upon arriving at college. This may be a reflection upon her previous educational background, or perhaps even a "conservative" or "controlled"* environment during rearing. To say more would be speculation, since our data are limited.

In viewing our results with the male CVCC students we see some of the same indications as above. We may conclude that CVCC males, as a group, appear to be more dissimilar than similar to the males in the national normative group. We conclude this since 6 of the 11 scales are significantly different between the two groups. On the other hand, since 5 of 11 are not significantly different, the males are more similar to the national male normative group than the females are to their respective norm group.

Again, we would not be judgmental regarding the value of these differences. We may, however, express the same concern about apparent "deficiencies" in areas of educational concern. By this we mean these applicable descriptions of persons who score as the CVCC males did:

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*The CVCC females seem to have much self-control, almost to the point of being inhibited and defensive.

unenthusiastic, few interests, unobserving, unsociable, defensive, self-deprecating, moderate aspirations, only fair potential for original or creative behavior.

The same indications prevail with CVCC males, that they do not have wide interests. This may reflect, also, lack of occupational or vocational "exposure". Again, the indications are that the typical CVCC male upon arrival at college, does not appear enthusiastic or excited about higher education.

One theory, to be tested later, is that the "typical" student entering CVCC is considered lower in scholastic aptitude, as measured by the Scholastic Aptitude Test (SAT) or the American College Test (ACT). It may be that they are considered differently by the secondary educators and counselors in terms of vocational education and motivational content. Again, this must be tested, but may be a possibility.

On the other hand, it may be that the attitudes held by the typical CVCC students are in fact the very ones that cause them to have significantly different vocational and educational outlooks. In other words, they may have been characterized in high school as the way they are now, and these attitudes caused them to ignore the educational and vocational motivation then and subsequently to appear disinterested, as they do now.

The findings of this study are at the least provocative, and possibly alarming, depending upon the reader's value system and "vested" interest in the students at CVCC. It certainly opens the door for further study in these areas of student characteristics.